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(54) Title: A PROCESS FOR THE PREPARATION OF FLUDARABINE PHOSPHATE FROM 2-FLUOROADENINE AND FLUDARABINE PHOSPHATE SALTS WITH AMINES OR AMMONIA

(57) Abstract: The invention provides a process for the preparation of fludarabine phosphate from 2-fluoroadenine and 9- β -D-arabinofuranosyl-uracil using *Enterobacter aerogenes* (EBA). 2-Fluoroadenine is reacted with 9- β -D-arabinosyl-uracile in a water solution at pH = 7 in the presence of EBA cell paste, to yield fludarabine. Fludarabine is then treated with acetic anhydride and the resulting acetyl derivative is crystallised and hydrolysed to fludarabine. Phosphorylation and purification with organic amines or with ammonium hydroxide afford fludarabine phosphate.

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